

WHAT IS CLAIMED IS:

1. A coating method comprising:
supplying a coating material to a coating material
5 spattering means from a coating material source through
a paint supply passage;
spattering the coating material in a condition easy
to atomize outwardly from the coating material
spattering means; and
10 exerting supersonic vibration to the coating
material immediately after spattered outwardly from the
coating material spattering means.
2. The coating method according to claim 1 wherein
15 the coating material spattering means is a rotary
atomizing head driven to rotate and centrifugally
spatter the coating material supplied thereto radially
outwardly, and wherein the supersonic vibration is
exerted toward the coating material spattered from the
20 rotary atomizing head in a region around and adjacent to
the outer circumferential perimeter of the rotary
atomizing head.
3. The coating method according to claim 1 wherein
25 the coating material spattering means is a paint nozzle,
and wherein the supersonic vibration is exerted
diagonally forward from around the paint nozzle toward a
region close to the paint nozzle.
- 30 4. The coating method according to claim 3 wherein
the coating material is expelled from the paint nozzle
without atomizing air.
5. The coating method according to claim 3 wherein
35 the coating material is expelled from the paint nozzle
together with atomizing air.

6. The coating method according to claim 1 wherein the coating material spattering means is an opening capable of hydraulic atomization, and wherein the supersonic vibration is exerted diagonally forward from around the opening toward a region close to the opening.

7. An atomizer comprising:
a coating material source;
a rotary atomizing head driven to rotate;
a paint supply pipe for supplying a coating material to the rotary atomizing head from the coating material source; and

an annular vibration plane located near the outer circumferential perimeter of the rotary atomizing head to encircle the outer circumferential perimeter of the rotary atomizing head to exert supersonic vibration forward,

wherein the supersonic vibration is imparted to the coating material immediately after being spattered from the rotary atomizing head to atomize the coating material and drive the atomized coating material forward.

8. The atomizer according to claim 7 wherein the annular vibration plane is an inclined plane which increases the diameter forward.

9. The atomizer according to claim 7 wherein the vibration plane and the rotary atomizing head are adjustable in relative position in the front-and-rear direction.

10. The atomizer according to claim 7 wherein the annular vibration plane is composed of a plurality of segments annularly aligned in the circumferential direction.

11. The atomizer according to claim 7 wherein the

atomizer is an electrostatic atomizer for depositing an electrically charged coating material on a work held in a ground potential.

- 5 12. An atomizer comprising:
 a coating material source;
 a coating material spattering means for spattering
a coating material in a condition easy to atomize;
 a paint supply pipe for supplying the coating
10 material from the coating material source to the coating
material spattering means; and
 an annular vibration plane located to encircle the
coating material spattering means to exert supersonic
vibration diagonally forward to concentrate the
15 supersonic vibration to a region adjacent to the coating
material spattering means,
 wherein the supersonic vibration imparts the
coating material immediately after spattered from the
coating material spattering means to atomize the coating
20 material.

13. The atomizer according to claim 12 wherein the
annular vibration plane exerts the supersonic vibration
diagonally forward from around the coating material
25 spattering means toward a region close to the coating
material spattering means.

14. The atomizer according to claim 12 wherein the
coating material spattering means includes a paint
30 nozzle, and wherein the coating material is expelled
from the nozzle without atomizing air.

15. The atomizer according to claim 12 wherein the
coating material spattering means includes a paint
35 nozzle, and wherein the coating material is expelled
from the paint nozzle together with atomizing air.

16. The atomizer according to claim 12 wherein the coating material spattering means includes a coating material opening capable of hydraulic atomization.

5 17. The atomizer according to claim 12 wherein the annular vibration plane is composed of a plurality of segments annularly aligned in the circumferential direction.

10 18. The atomizer according to claim 12 wherein the atomizer is an electrostatic atomizer for depositing an electrically charged coating material onto a work held in a ground potential.